

WHAT IS CLAIMED IS:

1. A motor-cooling structure of a front-and-rear-wheel-drive vehicle having an engine adapted to drive first driven wheels and a motor adapted to drive second driven wheels, wherein a driving force of the motor is transmitted to the second driven wheels through a reduction unit and a differential, the motor-cooling structure comprising:

a casing accommodating the reduction unit and the differential therein;

an oil sump formed on a bottom of the casing;

a first oil storage chamber provided within the casing, the first oil storage chamber storing an oil splashed from the oil sump by a driven gear of the differential;

a second oil storage chamber provided within the casing, the second oil storage chamber storing the oil splashed from the oil sump by the driven gear of the differential;

a first oil supply passage provided in an inner surface of the casing to supply the oil stored within the first storage chamber into a motor shaft by gravitational force, wherein the motor accommodated in a motor housing coupled to the casing is cooled;

an oil supply means disposed in the second oil storage chamber and driven by the motor; and

a second oil supply passage provided in the inner surface of the casing to supply the oil splashed by the oil supply means into the motor shaft to cool the motor.

2. The motor-cooling structure according to claim 1, further comprising:

a third oil supply passage to supply the oil in the first oil storage chamber to the second oil storage chamber by the gravitational force.

3. The motor-cooling structure according to claim 2, further comprising:

a tub-shaped oil-receiving portion provided at a location below the third oil supply passage and facing an outer periphery of the oil supply means, wherein the

tub-shaped oil-receiving portion guides the oil supplied from the third oil supply passage and the oil supply means to the second oil supply passage.

4. The motor-cooling structure according to claim 2, wherein the second oil storage chamber and the oil sump are partitioned from each other by a partition wall.

5. The motor-cooling structure according to claim 1, further comprising:

a clutch disposed between the driven gear and the differential.

6. The motor-cooling structure according to claim 5, wherein, when the clutch is coupled, the oil supply means is driven by the motor or the second driven wheels.

7. The motor-cooling structure according to claim 5, wherein, when the clutch is cut off, the oil supply means is driven by the motor.